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By L. EMMETT HOLT, M. D., New York.





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The opening of any new hospital is an event which it is [89] fitting we should celebrate, and I deeply appreciate the honor of being invited to a personal participation in the opening of the Harriet Lane Home for Invalid Children. A new hospital for children in this city means much to the community and to the medical school. I congratulate the City of Baltimore and The Johns Hopkins Medical School upon this event, and upon the selection which has been made of the head of this new institution, one of whom I can speak from most intimate personal and professional relations which have extended over a period of more than twelve years. I congratulate Dr. Howland on the opportunities which this splendid new hospital offers for teaching, for research and for practical experience. This building completed, and now formally opened, is the realization of the idea of a hospital for children in Baltimore which began to take shape when Dr. Emerson made his instructive report to the university upon children's hospitals in this country and abroad. If events have moved slowly they have moved surely.

We have in this country been slow to appreciate the need of special hospitals for children. Just as the specialty of pediatrics has been gradually differentiated from obstetrics on the one hand and general medicine on the other, so the evolution of the special hospital has been a slow one. Homes for foundlings most of our large cities have provided for many years. These, though necessary, have been in no sense

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[89] hospitals; and often lacking in proper medical control, by their excessive mortality they have served as an example of how little philanthropy without science can accomplish in saving infant life.

In maternity hospitals infants are tolerated as one of the unavoidable incidents of obstetric practice. But the provision for them, and the attention bestowed upon them, even in our best institutions, is something which shocks the pediatricist. Certainly they have as yet failed to appreciate the hospital requirements of young infants.

The need for special hospitals for contagious diseases is latterly becoming generally felt. Of the fifty cities in the United States with a population over 100,000, thirty-four have already established hospitals for the reception of the common contagious diseases, scarlet fever, diphtheria, etc. All but ten of these have come into existence since 1900. They are most important but limited in their sphere of activity. They have not supplied the need of a place where the common diseases of infancy and childhood can be studied and treated.

The necessity for special hospitals entirely devoted to children is something which is even yet scarcely appreciated in the United States either by the medical schools or the public. Only twenty-two cities are now provided with special hospitals for children. Is there a need for such institutions? Since hospitals are for the care of the sick, one may well inquire, who are the sick? Vital statistics of New York City show that twenty years ago 41 per cent of the total deaths were in children under five years, and that now, in spite of the great reduction which has taken place, these still form 33 per cent of all deaths. In the United States Census for 1910, Baltimore ranks seventh among the cities having the highest infant mortality, being exceeded only by Fall River, Lowell, Richmond, Detroit, Pittsburgh and Scranton. New York, with all its overcrowding, ranks fifteenth. The mortality in Baltimore of children under five years is the ninth largest in the cities of the country having a population over 100,000. It is surely incumbent upon the public to see to it that the age which includes fully one-third of all deaths should have adequate hospital provision made for it, and, what is even more important, adequate

facilities given to specialists for study and investigation, and [89]
at the same time afford to students, practitioners and nurses
opportunities for instruction and experience.

It is often urged that wards for infants and children in
general hospitals are to be preferred to separate hospitals for
this group of patients. Such wards have, it is true, been a
part of the organization of the larger hospitals of most of our
cities for the past fifteen or twenty years. But how has this
worked? In many institutions the beds have been largely or
exclusively given over to the care of orthopedic or other
surgical cases. Where medical beds existed they have usually
been made a part of the general medical service of the hospital,
and the attending physicians who served in rotation a few
months at a time, as a rule, gave scant attention to the needs
of the special service. Equally unsatisfactory has been the
attention given by the resident medical staff, when each
member was given in turn two or three months in charge of [90]
this ward that he might gain some experience with children.
The practical result of such an organization and administra-
tion has been that the service, especially as regards the infants,
went by default, and very little was accomplished in advanc-
ing the knowledge of the diseases of children. With respect
to organization there has been in some places an improvement
by the appointment of a special attending physician to these
wards. This is a practice which should invariably be followed.
Yet in spite of this change I have personally no hesitation
in pronouncing in favor of the separate hospital. The
children's service in the general hospitals is in nearly all cases
too small to admit of a proper classification and separation
of patients. The only important argument which I think can
be advanced in favor of wards in general hospitals is that of
economy. A large institution can certainly be operated at
a lower *per capita* cost than a small one, and the children's
hospital must not be too large. That such a service as usually
operated affords a valuable experience to the resident medical
staff is open to serious question.

The construction, the equipment, the organization, and
the operation of a hospital for young children are quite differ-
ent from those needed in hospitals for adults. These grow out

[90] of two great difficulties which attend the hospital care of these patients: the problem of nutrition and that of ward infections. These necessitate smaller wards, ampler provision for the separation of patients in doubtful diseases, and in diseases of feebler communicability than our ordinary contagious diseases. Not only must there be sufficient provision for fresh air and proper ventilation for acute infectious cases and pneumonia, we must have also wards in which a temperature much higher than the usual room temperature can be maintained for the congenitally feeble, the marantic and the premature infant. The nutrition of feeble infants is always difficult even in a state of comparative health; but with acute illness added, the difficulties are greatly increased. The feeding especially must be exact and requires special equipment and specially trained service. There are many other particulars in which the operation of an institution caring for the very young must be carried on in an entirely different manner from methods pursued in an adult hospital. It has been my observation and experience that boards of managers, hospital superintendents, and head nurses can rarely be made to appreciate them. Forming only one department of a large institution, and that usually a small part, it is seldom the case that anything like adequate attention from an administrative point of view is given to the wards for infants and young children.

In the past our hospitals have represented our philanthropy. The modern hospital, while not losing its philanthropic character, is to be classed among the institutions of higher education. The academic hospital in particular is to be so regarded. Properly equipped and administered, it is altogether the most productive of all the college laboratories. Proper teaching does not interfere with the best care of the sick, but rather should contribute to it. This is particularly true of little children, who have no prejudices to overcome, no modesty to be shocked, and no sensibilities to be hurt; but since they cannot describe their pains or express in words their wants, they require the closest kind of individual study and observation. No better opportunity can be afforded for the training of the medical student than to place him in a hospital ward with sick infants and teach him how

to observe them. One who would succeed in this specialty [90] must not only know disease, he must learn to understand children.

The provision for the care of patients must be of the very best; while not extravagant the best possible hygienic conditions for the treatment of the sick must be furnished. While it is important to give our students the scientific point of view, we must, at the same time, equip them with the facts and the training which will enable them to do as well as possible the common everyday things which are needed in practice. It is altogether probable that fully four-fifths of your students will be practitioners of medicine, and that the other fifth will, as parents, be called upon to put to practical use the teaching of this department.

Research work, while of the utmost value to the hospital, is of little importance to the average student. Now and then a genius appears in our medical schools who should be encouraged to take up new problems. But there are few men who are not the better for having spent four years, as a preliminary training, upon the regular courses. Only in this way can they obtain the breadth of view which will enable them to connect their scientific work with the great practical problems of medicine to-day.

Provision for research in the special hospital should be ample, and this department should be generously supported, for here are opportunities found in no other institution. The close association of the scientific and the practical workers under one roof is of immense advantage to both. Research work should not be conducted along pathological or chemical lines only, but it should be clinical also. All these lines of investigation should be carried on simultaneously. The present disposition to undervalue the clinical side and put the emphasis upon the purely laboratory side of research is most unfortunate. Students and young assistants should not get the idea that the only scientific observations in medicine are those made on guinea pigs. There is urgent need at the present time not only for technical training in the use of the newer aids to diagnosis, but for the closest kind of clinical observation of disease, especially in young children.

[90] Nearly the whole fabric of infantile therapeutics must be constructed anew from the standpoint of recent advances in medical science.

I do not mean that patients in the hospital are to be used as subjects for experiment; that phrase is likely to be misunderstood. But what is new and promising must be thoroughly tested under conditions in which the most careful observations are possible; and these can only be obtained in a hospital. Proper clinical studies upon patients necessitate a liberal provision for a resident staff and assistants. Their work, however, can, as already suggested, be advantageously supplemented by the medical student. All these three lines of work, student instruction, research, and the care of patients can be
[91] carried on at the same time and each activity, instead of embarrassing the others, can promote them and thus the best possible results in all be attained.

I have already suggested that hospital work among very young children is quite a different problem from the hospital care of adults. There are some features upon which I would like to dwell for a few minutes. The first is that of hospital mortality. Nothing is more disturbing to hospital managers, nor at times more discouraging to a medical staff than the death rate, especially among infants. While, in a broad sense, it is true that the value of the work is to be measured by the number whose lives are saved or whose health is restored, this must not be too narrowly construed. To compare the mortality figures of such a hospital with one admitting only adults is most unjust. The proper comparison is between young children treated in a hospital and those of the same class treated outside of it. We have seen that children under five years furnish a third of all the deaths. In different cities the mortality during the first year of life varies from 150 to 350 per 1000 of infants born. Infants are the first to feel the effects of an unfavorable environment, they are the most susceptible to disease and have the smallest resistance to it. Whether they are received into hospitals or not the mortality of infants is very high, unnecessarily high. In the City of Baltimore your infant mortality in 1910 was 383 per 100,000 of population.

It is to reduce this excessive death-rate to the minimum [91] that the hospital for children must work. Obviously any such institution which does its duty to the community, and admits very sick infants, will have of necessity a high death rate. This can, of course, be reduced by the simple expedient of refusing admission to apparently hopeless cases. I have known institutions which resorted to this in order to make a good showing in annual reports. But it is a narrow and contemptible sort of philanthropy which would countenance such a practice. A hospital exists for the sick, and the sicker the patient the greater the reason why he should be received in a hospital which is presumably equipped with every facility for saving life. Nearly one-fifth of the deaths in the Babies' Hospital, in New York, are in patients who live less than twenty-four hours after admission. But if such children were not received, in many instances, they would have died in the mother's arms while walking the street. For a period of years in this institution, which receives only infants and children under three years, the average mortality has been about 30 per cent. Something like this is to be expected in every hospital which admits the same class of patients. But to hospital managers I would say, do not measure the usefulness of your institution to the community by the death rate, but regard this as an indication of the kind of patients admitted. Year by year as science advances, and your institution grows in efficiency, you will note with satisfaction a steady reduction in the death rate with the same class of patients.

Another feature of hospital work among very young children is the frequency of ward infections. Not only are measles, scarlet fever, whooping cough and diphtheria to be guarded against, but more difficult to combat because the means of spreading is less obvious are infections due to the pneumococcus, streptococcus, gonococcus, and influenza bacillus. They are responsible for many more deaths than are the common contagious diseases. All of these necessitate the detention of patients in observation rooms before admission to the general ward; adequate space between cribs, or the erection of partial partitions between them to prevent bed to bed infection, hygienic sweeping and dusting; the most scrupulous

[91] cleanliness in wards to prevent aerial infection through dust; constant care regarding towels, bath tubs, wash clothes, napkins, thermometers, and in fact everything which comes in contact with the patient. All of these things and many more which time does not permit me even to enumerate, indicate that in a hospital ward for infants we must aim at conditions which at present, in most institutions, are realized only in the surgical operating room. The susceptibility of these patients to infection is certainly comparable to persons with open wounds. You are thinking, perhaps, that what I have said is impractical or impossible, and that it would not be worth while. So surgeons once thought of rigid asepsis. Hospital work for infants is admittedly difficult. Unless it can be well done it should not be attempted; but when it is properly done, the results will bear comparison with those obtained in any other department of medicine.

I have not time to dwell upon the necessity for the most ample provision for nurses, if such results as we have been contemplating are to be obtained. The needs of adult patients in this respect are no criterion. At least one nurse to three infants by day, and one to eight or nine at night are necessary even for patients not acutely ill.

The conditions under which only successful hospital work for young children can be carried on impose certain limitations with regard to the size of such an institution. I do not believe that the best work is possible in hospitals of this class with three or four hundred beds. Several small ones would accomplish much more. The one hundred beds provided in this institution I do not think should be increased. This will provide probably an average number of seventy-five patients, which will furnish ample material for the instruction of students, and are all that can advantageously be cared for by a single medical head. This ward service should be supplemented by an out-patient department which may be of indefinite size.

On the part of hospital trustees and managers there is often a disposition to consider the size of the work done as a measure of usefulness. But it is the quality of the work by which a hospital should be judged, not the quantity, for if the

quality be poor, the larger it is the worse for the public and [91] the profession. Numbers do not count in science so much as other considerations.

In New York, at least, the greatest embarrassment to the scientific study of disease in hospitals is the size of the service, and the demands made upon the medical and nursing staff for the routine care of the sick. The time needed for the thorough study of difficult and obscure cases is not to be found and progress in clinical medicine is therefore slow. I mention these points, not because they are new, for every hospital physician fully appreciates their force, but in order that lay [92] members of hospital boards may get the point of view that the chief function of a children's hospital is to determine, by careful observation in the diagnosis and treatment of the few, how the many must be treated. The best results are to be obtained by the intensive method of study, not the statistical method.

Some of the discouraging features of hospital work for children have been mentioned. There is another side of greatest encouragement. The great difficulties are to be found in the first year. After this age children are the most hopeful patients to deal with. Nowhere else does effort tell so effectively in results. With adults hospital work is, much of it at least, only patchwork, putting an old hulk into such repair that it may keep afloat and do duty a little longer. With children it is more like new construction, starting a new life straight, with all the satisfaction which this brings.

A special hospital like this can do much for the community besides caring for the sick poor. It sets a standard of medical practice for the profession of the city. It is an exponent of modern science in its particular field. Here should the best hygiene be illustrated, the best feeding be practiced, and the most intelligent care of the infant sick or well be exemplified. Such ideas spread gradually from those immediately connected with the hospital to the general public.

One of the most effective means of influencing the public is by nurses who have been educated in the institution. Not only should trained nurses be taught a knowledge of children and their diseases, but a school for training nursery maids in the

[92] care of healthy infants should be established as a constituent part of the hospital. The need of the public in this respect is so great that the opportunities which the hospital affords to give this instruction should be utilized. This is a by-product of hospital organization and operation that is of great importance, and will prove of advantage to an institution needing public support.

The educational value to the public of an up-to-date special hospital like this can hardly be exaggerated. It is destined to take its place among the great forces for social uplift in the department of child welfare. The City of Baltimore should have as much interest in its development and as much pride in its success as the medical school. The people of the community will need to be educated up to the advantages which the hospital offers over the home, especially the homes of the poor, for very sick children. With many of this class a prejudice against the hospitals, born of ignorance, must be overcome before they will consent to entrust their children to its care. To gain confidence is a matter which takes time, but the establishing with parents and relatives the most friendly and sympathetic relations is something, the importance of which every one connected with the hospital as superintendent, doctor, nurse, or employee should appreciate. It has to do with the practical success of the institution in many ways. Upon no one thing does the accurate diagnosis of disease depend so much as upon autopsies. The facilities which the hospital affords for seeing autopsies constitute one of its greatest uses. I know of children's hospitals where these are permitted upon less than 10 per cent of the fatal cases. What a loss to science this represents. For the medical staff and students who have long watched an obscure condition go on to a fatal termination, not to have an opportunity to clear up the mystery is most discouraging. In another institution with which I am personally connected, consent for autopsy is obtained in 70 per cent of the cases; and this has been accomplished largely through the influences which I have just suggested.

The hospital occupies a place in modern civilization of steadily increasing influence and importance. On the one side

it must be in close touch with teaching and medical research, [92] and on the other with the needs of the public. The spirit of an institution is something different from its aims. It is the resultant of the attitude of mind, the breadth of outlook, and the personality of the three persons who determine the hospital's policy: The dominating spirit in the board of trustees, the superintendent, and the physician-in-chief. A hospital should be managed efficiently and scientifically, but more than this, it should be managed humanly, keeping in sympathetic relations with the class who form its patients. May we in this country, be delivered from the cold-blooded science which dominates so many of the hospitals abroad, where patients are regarded only as so much *material*. We must not forget in our hospitals, or in our medical teaching that the ultimate aim in all our work is to minister to the suffering and the unfortunate. We need to keep such ideals before the minds of the medical student quite as much as to arouse his enthusiasm for science, and to arm him with the skill and experience which will fit him to practice his profession.

